## **CLAIMS**

## We claim:

1. A method of treating psoriasis comprising administering to a patient with psoriasis an effective amount of (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  having the formula:

- 2. The method of claim 1 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin is administered orally.
- 3. The method of claim 1 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin is administered parenterally.
- 4. The method of claim 1 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin is administered transdermally.
- 5. The method of claim 1 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin is administered topically.
- 6. The method of claim 1 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin is administered in a dosage of from about  $0.01\mu g/day$  to about  $100\mu g/day$ .

7. A method of treating a disease selected from the group consisting of leukemia, colon cancer, breast cancer or prostate cancer comprising administering to a patient with said disease an effective amount of (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin having the formula:

- 8. The method of claim 7 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered orally.
- 9. The method of claim 7 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered parenterally.
- 10. The method of claim 7 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered transdermally.
- 11. The method of claim 7 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered in a dosage of from about  $0.01\mu g/day$  to about 100  $\mu g/day$ .
- 12. A method of treating an autoimmune disease selected from the group consisting of multiple sclerosis, lupis, diabetes, mellitus, host versus graft reaction, and rejection of organ transplants, comprising administering to a patient

with said disease an effective amount of (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin D<sub>3</sub> having the formula:

- 13. The method of claim 12 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered orally.
- 14. The method of claim 12 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin D<sub>3</sub> is administered parenterally.
- 15. The method of claim 12 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered transdermally.
- 16. The method of claim 12 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin D<sub>3</sub> is administered in a dosage of from about  $0.01\mu g/day$  to about 100  $\mu g/day$ .
- 17. A method of treating an inflammatory disease selected from the group consisting of rheumatoid arthritis, asthma, and inflammatory bowel diseases, comprising administering to a patient with said disease an effective amount of  $(20S)-1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  having the formula:

- 18. The method of claim 17 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered orally.
- 19. The method of claim 17 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered parenterally.
- 20. The method of claim 17 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin D<sub>3</sub> is administered transdermally.
- 21. The method of claim 17 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered in a dosage of from about  $0.01\mu g/day$  to about 100  $\mu g/day$ .
  - 22. (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  having the formula:

23. A method of treating a skin condition selected from the group consisting of wrinkles, lack of adequate skin firmness, lack of adequate dermal hydration and insufficient sebum secretion which comprises administering to a patient with said skin condition an effective amount of (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  having the formula:

- 24. The method of claim 23 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered orally.
- 25. The method of claim 23 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered parenterally.
- 26. The method of claim 23 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered transdermally.
- 27. The method of claim 23 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin D<sub>3</sub> is administered topically.
- 28. The method of claim 23 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered in a dosage of from about  $0.01\mu g/day$  to about 100  $\mu g/day$ .

29. A method of treating a metabolic bone disease where it is desired to maintain or increase bone mass comprising administering to a patient with said disease an effective amount of (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin D<sub>3</sub> having the formula:

- 30. The method of claim 29 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin D<sub>3</sub> is administered orally.
- 31. The method of claim 29 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered parenterally.
- 32. The method of claim 29 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin  $D_3$  is administered transdermally.
- 33. The method of claim 29 wherein (20S)- $1\alpha$ -hydroxy- $2\alpha$ -methyl-19-nor-vitamin D<sub>3</sub> is administered in a dosage of from about  $0.01\mu g/day$  to about 100  $\mu g/day$ .
  - 34. The method of claim 29 wherein the disease is senile osteoporosis.
- 35. The method of claim 29 wherein the disease is postmenopausal osteoporosis.

- 36. The method of claim 29 wherein the disease is steroid-induced osteoporosis.
- 37. The method of claim 29 wherein the disease is low bone turnover osteoporosis.
  - 38. The method of claim 29 wherein the disease is osteomalacia.
- 39. A method of treating psoriasis comprising administering to a patient with psoriasis an effective amount of (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  having the formula:

- 40. The method of claim 39 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered orally.
- 41. The method of claim 39 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered parenterally.
- 42. The method of claim 39 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered transdermally.
- 43. The method of claim 39 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered topically.

- 44. The method of claim 39 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered in a dosage of from about  $0.01\mu g/day$  to about  $100\mu g/day$ .
- 45. A method of treating a disease selected from the group consisting of leukemia, colon cancer, breast cancer or prostate cancer comprising administering to a patient with said disease an effective amount of (20S)-1 $\alpha$ -hydroxy-2 $\beta$ -methyl-19-nor-vitamin D<sub>3</sub> having the formula:

- 46. The method of claim 45 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered orally.
- 47. The method of claim 45 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered parenterally.
- 48. The method of claim 45 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered transdermally.
- 49. The method of claim 45 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered in a dosage of from about  $0.01\mu g/day$  to about  $100\mu g/day$ .

50. A method of treating an autoimmune disease selected from the group consisting of multiple sclerosis, lupis, diabetes, mellitus, host versus graft reaction, and rejection of organ transplants, comprising administering to a patient with said disease an effective amount of (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  having the formula:

- 51. The method of claim 50 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered orally.
- 52. The method of claim 50 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered parenterally.
- 53. The method of claim 50 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered transdermally.
- 54. The method of claim 50 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered in a dosage of from about  $0.01\mu g/day$  to about  $100\mu g/day$ .
- 55. A method of treating an inflammatory disease selected from the group consisting of rheumatoid arthritis, asthma, and inflammatory bowel diseases, comprising administering to a patient with said disease an effective amount of  $(20S)-1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  having the formula:

- 56. The method of claim 55 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered orally.
- 57. The method of claim 55 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered parenterally.
- 58. The method of claim 55 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered transdermally.
- 59. The method of claim 55 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered in a dosage of from about  $0.01\mu g/day$  to about 100  $\mu g/day$ .
  - 60. (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  having the formula:

61. A method of treating a skin condition selected from the group consisting of wrinkles, lack of adequate skin firmness, lack of adequate dermal hydration and insufficient sebum secretion which comprises administering to a patient with said skin condition an effective amount of (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  having the formula:

- 62. The method of claim 61 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered orally.
- 63. The method of claim 61 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered parenterally.
- 64. The method of claim 61 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered transdermally.
- 65. The method of claim 61 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered topically.
- 66. The method of claim 61 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered in a dosage of from about  $0.01\mu g/day$  to about 100  $\mu g/day$ .

67. A method of treating a metabolic bone disease where it is desired to maintain or increase bone mass comprising administering to a patient with said disease an effective amount of (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  having the formula:

- 68. The method of claim 67 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered orally.
- 69. The method of claim 67 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered parenterally.
- 70. The method of claim 67 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin D<sub>3</sub> is administered transdermally.
- 71. The method of claim 67 wherein (20S)- $1\alpha$ -hydroxy- $2\beta$ -methyl-19-nor-vitamin  $D_3$  is administered in a dosage of from about  $0.01\mu g/day$  to about 100  $\mu g/day$ .
  - 72. The method of claim 67 wherein the disease is senile osteoporosis.
- 73. The method of claim 67 wherein the disease is postmenopausal osteoporosis.

- 74. The method of claim 67 wherein the disease is steroid-induced osteoporosis.
- 75. The method of claim 67 wherein the disease is low bone turnover osteoporosis.
  - 76. The method of claim 67 wherein the disease is osteomalacia.
  - 77. A compound having the formula:

